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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/21/2006

In-Kil Park

3576-017

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83219

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HOSOON LEE

9600 SW OAK ST. SUITE 525

TIGARD, OR 97223

EXAMINER

ARORA, AJAY

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,810	<b>Applicant(s)</b> PARK ET AL.	
	<b>Examiner</b> AJAY K. ARORA	<b>Art Unit</b> 2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 29-44 is/are pending in the application.
- 4a) Of the above claim(s) 30,31,33-36,39-41,43 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29,32,37,38 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claims 37-38 and 42 are objected to because of the following informalities:  
Claims 37-38 and 42 recite “according to any one of claim 29”. As the above claims depend only from claim 29, it is suggested that the above recitation be changed to “according to claim 29”, which is similar to recitation of claim 32. Appropriate correction is required. The above amendment will not affect the scope of the claims and as such, will not be considered as an amendment necessitating new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 32, lines 11-13 recite “formed on another one of the sheets to extend over the unit elements in a transverse direction of both the ends of another one of the sheets” (emphasis added). From the above recitation, it is not clear if the recited

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“another one of the sheets” that occurs twice is referring to the same sheet, and if this sheet is same or similar to “another of the sheets” recited in line 6 of claim 29. For the purposes of this office action, it will be assumed that the above is intended as a broad recitation and as such, reads on any of the scenarios described above. If applicant has a different interpretation, applicant is requested to describe the same and specifically show how that reads on applicant’s disclosure.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 29, 32, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over IDS reference Mandai (US 5,495,387), hereinafter Mandai, in view of Kato (US 4746895), hereinafter Kato.

Regarding claim 29, Mandai (refer to Figures 1-6) teaches a laminated chip element (Col. 44, lines 44-48) comprising a plurality of unit elements, comprising:

- at least two sheets (12b or 12d; and 12c or 12e) laminated on each other (to form 11), each of the sheets having a desired property;

- a plurality of first internal electrodes (13 on sheet 12b or 12d) formed on at least one of the sheets (12b or 12d), each of the first internal electrodes being arranged in each of the unit elements;

- a second internal electrode (14 on sheet 12c or 12e) formed on at least another of the sheets (12c or 12e) to extend over the unit elements;

- a plurality of element patterns (26) including resistors (Col. 4, lines 40-46) or inductors formed on the sheets, each of the element patterns being arranged with each of the unit elements;

- a plurality of first (comprised of 18 and 24 of Figure 6) and second (comprised of 20 and 25 of Figure 6) external terminals, which are input and output terminals connected to the plurality of the first internal electrodes (13 on sheet 12b or 12d) and to the plurality of the element patterns (26) , respectively;

- a third external terminal (21a of Figure 6), which is a common terminal connected to the second internal electrode (14); and

a protective insulation layer formed on the uppermost one of the laminated sheets (Col. 4, lines 29-30) so that a portion of both ends of each of the element patterns is exposed,

wherein the both ends of each of the element patterns (26 of Figure 6) are directly connected to the first (i.e. part 24 of the first external terminals comprised of 18 and 24 of Figure 6) and second (i.e. part 25 of the second external terminals comprised of 20 and 25 of Figure 6) external terminals, respectively.

Whereas Mandai discloses that a protective insulation layer may be formed on the uppermost one of the laminated sheets (Col. 4, lines 29-30), Mandai does not provide details and as such, does not teach that the protective insulation layer is formed so that “a portion of both ends of each of the element patterns is exposed”. Kato (refer to Figures 1-4) teaches that in a ceramic passive component with element patterns (2), first terminal (3), second terminal (4), wherein the protective insulation layer (5) is formed so that a portion of both ends of each of the element patterns is exposed (ends of element patterns 2 extend beyond protective insulation 5 and are thus exposed from the protective insulation). It would have been obvious to one of ordinary skills in the art at the time of the invention to modify Mandai so that the protective insulation layer is formed so that a portion of both ends of each of the element patterns is exposed. The ordinary artisan would have been motivated to modify Mandai for at least the purpose of providing a protective insulation layer over the element patterns (for protecting them from environmental stresses) while still making portions (i.e. exposed portions) of both ends of each of the element patterns available for direct connection to first and second

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terminal (as seen in Figure 4 of Kato, both ends of each of the element patterns 2 are directly connected to 3 and 4).

Regarding claim 32, Mandai (refer to Figures 1-6) teaches that the at least one of the sheets may includes a first sheet (12b) and a second sheet (12d),

said first internal electrode (13) includes a plurality of first conductive patterns (Col. 4, lines 18-21) formed on one of the first sheet (12b) in a direction of both ends of the first sheet, each of the first conductive patterns being arranged in each of the unit elements, and a plurality of second conductive patterns (13) formed on the second sheet (12d) in the same direction as the first conductive patterns, each of the second conductive patterns being arranged in each of the unit elements;

both opposite ends of the first and second conductive patterns (13 on 12b and 13 on 12d, respectively) are connected to the first (18) and second (20) external terminals (through resistors 26 of Figure 6), respectively;

said second internal electrode (14) includes a third conductive pattern (15) formed on another one of the sheets (12c or 12e or similar sheet in the multiple sheet stack of Figures 1-6) to extend over the unit elements in a transverse direction of both the ends of another one of the sheets (12c or 12e or similar sheet in the multiple sheet stack of Figures 1-6); and

the third conductive pattern (15) is interposed between the first and second conductive patterns (13 on 12b and 13 on 12d, respectively).

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Regarding claim 37, Mandai (refer to Figures 1-6) teaches that metal pads (24 of Figures 4 and 6 that are part of the first external terminals) are formed to be spaced apart from each other, and the element pattern (26) is formed to connect the metal pads to each other.

8. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandai and Kato as applied to claim 29 above, and further in view of Hashimoto (US 5,917,403), hereinafter Hashimoto.

Regarding claim 38, Mandai (refer to Figures 1-6) teaches substantially the claimed structure including that the protective insulation layer may be a resin (Col. 4, lines 29-30) but does not specify that the resin is specifically an epoxy. Hashimoto teaches a passive component with a protective insulation layer that includes epoxy (Col. 4, lines 15-20). It would have been obvious to one of ordinary skills in the art at the time of the invention to modify Mandai so that the protective insulation layer includes epoxy. The ordinary artisan would have been motivated to modify Mandai for at least the purpose of utilizing a protective insulation layer material which provides excellent protection against external contaminants and can be easily molded to a variety of shapes.

9. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandai and Kato as applied to claim 29 above, and further in view of Nakamura (US 5,430,429), hereinafter Nakamura.



Regarding claim 42, Mandai (refer to Figures 1-6) teaches that the element pattern (26) includes resistive material including cermets (Col. 4, lines 24-30), but does not specifically teach Ni-Cr or RuO<sub>2</sub>. Nakamura teaches that conventionally, cermet resistors are mainly composed of a ruthenium oxide (Col. 1, lines 15-27). It would have been obvious to one of ordinary skills in the art at the time of the invention to modify Mandai so that the cermet material of Mandai includes RuO<sub>2</sub>. The ordinary artisan would have been motivated to modify Mandai for at least the purpose of utilizing a conventional material that provides superior precision for resistive elements (see Nakamura, Col. 1, lines 15-27).

### ***Response to Arguments***

10. Applicant's arguments with respect to claim 29 and its dependent claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJAY K. ARORA whose telephone number is (571)272-8347. The examiner can normally be reached on Mon through Fri, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thao X. Le can be reached on (571) 272-1708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K. A./  
Examiner, Art Unit 2892

/Thao X Le/  
Supervisory Patent Examiner, Art Unit 2892